UNITED STATES DISTRICT COURT
DISTRICT OF MAINE

EXHIBIT D

PACKGEN, Plaintiff v. BERRY PLASTICS CORPORATION, et al. Defendants	Civil No. 2:12-cv-00080-JAW

Expert Report
Charles D. Cowan, Ph.D.

August 31, 2012

Summary of Opinions

I was asked to consider and review the opinions offered by Mark Filler in Plaintiff's Expert Witness Designations in this action. Mr. Filler purports to offer estimates of lost profits for the Plaintiff for lost sales to CRI/Criterion and related companies, and then for lost sales it expected to make to 37 petroleum refineries. To estimate lost profits, Mr. Filler attempts to apply two different models of losses, one that he labels a deterministic model and the other labeled a simulation model.

Mr. Filler's work suffers from two severe and insurmountable problems: faulty assumptions underlying his calculations, and a faulty application of statistical method and statistical theory. As his methods rely on these flawed assumptions and the incorrect application of statistical methods, his opinions do not lead to a conclusion that he can state with a degree of substantial certainty. His methods and conclusions are wrong. In particular, the following points summarize my opinions regarding Mr. Filler's work.

A. Mr. Filler calculates lost profits from the period from April 1, 2008 to March 31, 2018 in his deterministic model by assuming that revenues and costs are fixed during the period of loss.[1] The assumption that revenues and costs are fixed is directly contradicted by his own data, showing that revenues and costs vary from year to year. In particular, if revenues decline, costs increase, or both, this calculation results in a gross overstatement of lost profits. Mr. Filler makes no attempt to test this assumption even though he has the data necessary to perform such a calculation. Thus, his opinion resulting from his deterministic model is completely unsupported.

B. Mr. Filler incorrectly calculates averages used in his deterministic model. In his calculations[2], his average material costs are calculated as ($56.63+72.65)/2 = $64.64, average Freight costs are calculated as ($1.06+$3.63)/2 = $2.35, and average Direct Labor Costs are ($8.60+$15.45) = $12.03. These three values are the midpoints of a low value and a high value and do not reflect an average in any sense of the word. These numbers are meaningless in the

[1] Page 2, Section 2.B. of Plaintiff's Expert Witness Designations
[2] Filler's Supporting Documentation, Criterion Damages.xlsx, Forecast-Deterministic spreadsheet

context of what Mr. Filler is attempting to do with his deterministic model, since they are not based on historical values, nor are they based on any forecasts of future costs.

C. Under his simulation model, Mr. Filler chooses probability distributions for his simulation that clearly are incorrect for the data he is trying to simulate, with the effect that he produces biased and incorrect results.

D. Under his simulation model, Mr. Filler chooses parameters for the probability models for his simulation that are not supported by any data and are not realistic in terms of the forecasts he attempts to make. Again, the effect of this is that he produces seriously biased results.

E. Under his simulation model, Mr. Filler maintains the same probability distributions with the same parameters for all the years in the simulation. This is exactly the same error made in the deterministic model where all revenues and costs remain the same over all years. Mr. Filler completely ignores any effects of changes that should be anticipated due to competition, technology, productivity, regulation, or any other factor that would affect an industry characterized by rapid change in these areas. Again, the effect of this is that he produces seriously biased and unrealistic results.

F. For the opinion on lost sales to refineries, Mr. Filler uses the same simulation procedure, with the same incorrect probability distributions and incorrect parameters defining the distributions, the same incorrect assumption that there are no changes in the marketplace over time, and he adds a new incorrect assumption that there is no competition in the marketplace. He increases market share, from no share of the market currently, to 10% in the first year and on to 65% of the market by year 10. In Mr. Filler's opinion, competitors, currently holding all of the market, would not react and would allow this incursion unchallenged.

In short, Mr. Filler makes a series of unsupported and provably incorrect assumptions, makes errors in choosing probabilities for his simulations and in the most basic of computations of parameter values, and violates statistical principles necessary to generate his flawed estimates. The remainder of this report presents details about each of the errors made by Mr. Filler.

Background

Mr. Filler relies on a number of statistical procedures in his report and uses a number of terms that are not explained. Before describing what Mr. Filler did in his report, I offer some definitions and explanations of statistical terms and methods.

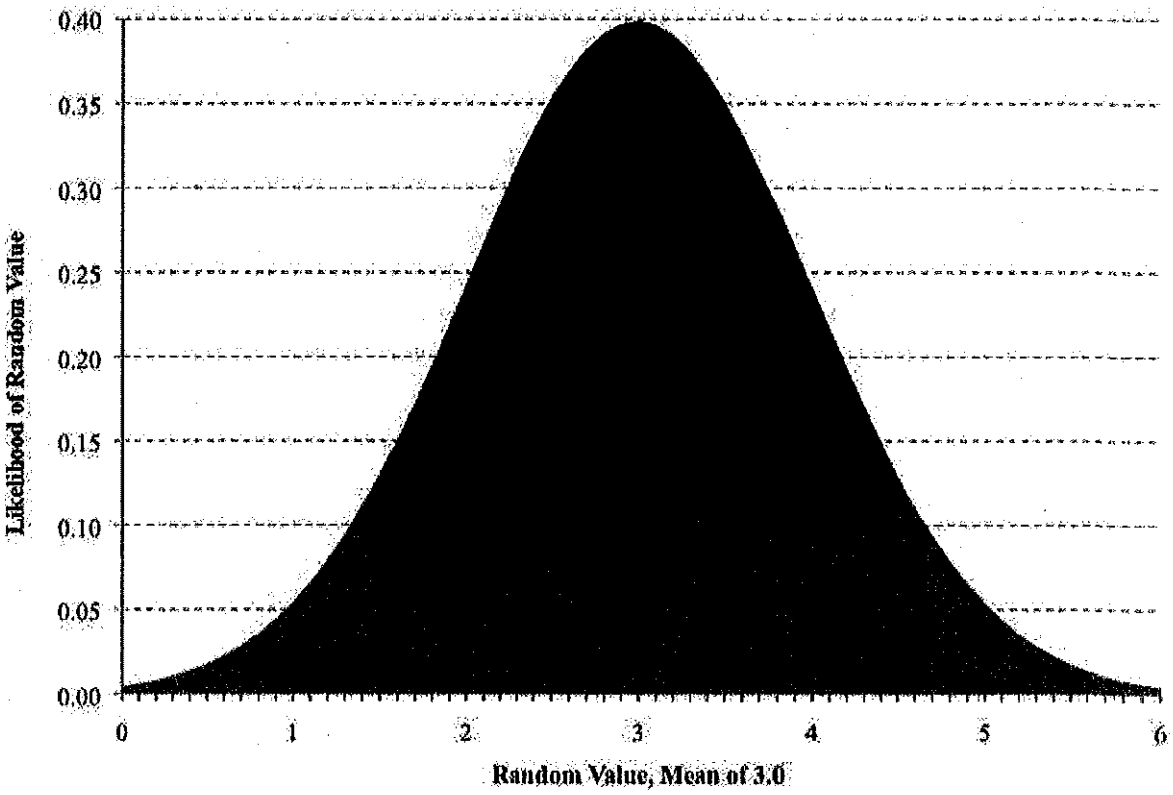
There are three key concepts to address in Mr. Filler's report: the use of probability distributions, the estimation of parameters that define the distributions, and tests used to determine whether the probability distribution chosen is the correct one. Mr. Filler relies in his simulations on the use of three probability distributions: the normal distribution, the uniform distribution, and the triangular distribution. There are many other distributions that could have been considered by Mr. Filler, but he chose these three. He offers no explanation grounded in any economic or financial theory as to why he chose these distributions instead of others to use in his models.

Probability Distributions

A probability distribution is a description of the likelihood of a single outcome from a random process that produces an outcome. For example, if one walks into a bank and looks at the line leading to the teller, the number of people in line is considered to be a random number (zero, one, two, ...) that follows a distribution. By making a simple assumption like this, it is possible to model how long a line in a bank might be, and the maximum amount of time that a customer may have to wait before receiving service. A high probability in a distribution means that a value with that high probability is more likely to be observed than a value with a low probability. A probability distribution is simply a mathematical device to indicate how likely events are to occur, if the random process being examined or used follows that probability distribution.

The normal distribution is one such distribution. It is also frequently described as the bell curve and is one of the most commonly used distributions in a wide number of scientific fields, including physics, chemistry, economics, and finance. Random variables that are normally distributed can take on any value between minus infinity and plus infinity, but the values that are most likely to be observed are found within a range around the mean of the distribution. A chart depicting the normal distribution is found below (Chart 1).

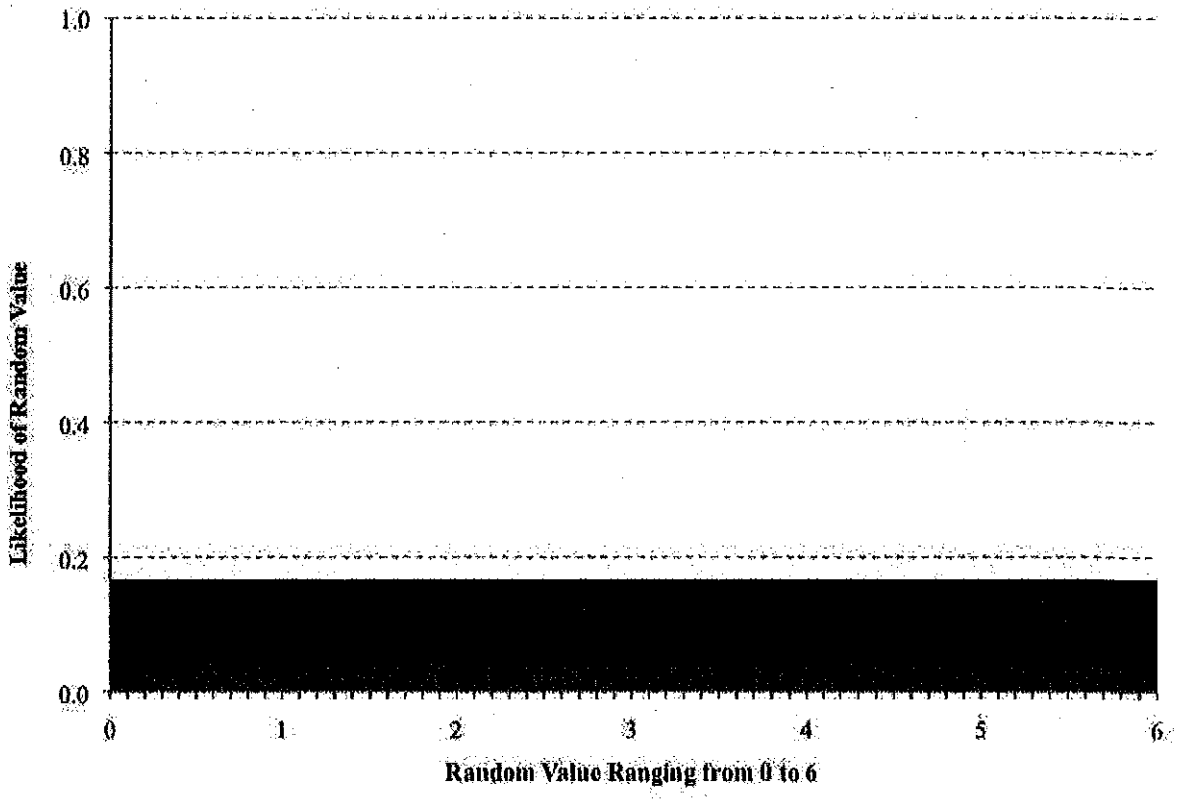
Chart 1: The Normal Distribution, Centered at a Mean of 3.0



The normal distribution is completely defined by two parameters, the mean and the standard deviation. The mean is the center of the distribution and is the point where there is the greatest likelihood. The standard deviation is a measure of the average width of the distribution, measured from the mean to each random value covered by the distribution. The mean defines the distribution and is not obvious from other parameter selections.

The uniform distribution is another distribution selected by Mr. Filler. Random variables that are uniformly distribution all have exactly the same likelihood within a predefined range, and zero likelihood outside this range. The uniform distribution is depicted in Chart 2 below. The uniform distribution is completely defined by two parameters, the minimum and the maximum. Variable values less the minimum or greater than the maximum are not allowed (have zero probability of occurring).

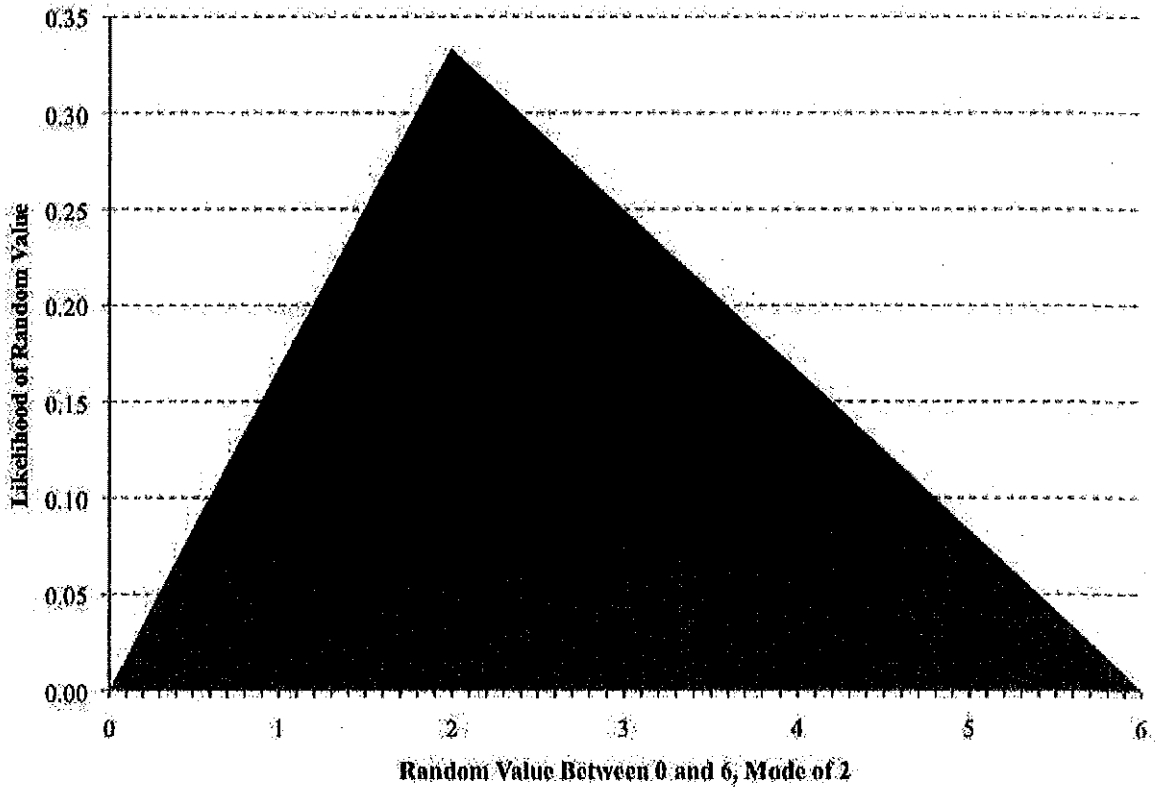
Chart 2: The Uniform Distribution on the Range Zero to Six



The last distribution used by Mr. Filler is the triangular distribution. Random variables that are distributed according to the triangular distribution have increasing likelihoods from a minimum to a modal value, and decreasing likelihoods from the mode to a maximum value, and zero likelihood outside this range defined by the minimum and maximum. The mean of this distribution is (maximum+minimum)/2 and is not determined independently from these values.

The triangular distribution is completely defined by three parameters, the minimum, the mode, and the maximum. Variable values less the minimum or greater than the maximum have zero probability. The mode is the peak of the triangle and is the most likely point in the distribution. The mean is calculated as (maximum + minimum + mode)/3. The mean is not equal to the mode unless the mode is the exact midpoint between the minimum and the maximum. Chart 3 depicts the triangular distribution.

Chart 3: The Triangular Distribution on the Range Zero to Six, with a Mode of Two



Parameters for Probability Distributions

The normal distribution is defined by a mean and a standard deviation. These must be estimated unless they are absolutely known for theoretical reasons. Small differences in the mean and in the standard deviation can lead to very substantial differences in outcomes of experiments, especially in a simulation where later values in a simulation are dependent on earlier values used. The mean and the standard deviation must be determined from historical data or from some theoretically supported hypothesis.

The uniform and the triangular distribution are based on known values of the minimum and maximum of the distribution. These values must be known for the distributions to be used, as the distributions do not allow the existence of values below the minimum or above the maximum. The mode in the triangular distribution may not be known and can take on any value

between the minimum and maximum, but it must be estimated based on historical data or from some theoretically supported hypothesis.

Tests of the Probability Distributions

To determine if the data being analyzed fits a particular probability distribution, there are statistical tests that can be used to determine if the data fit that distribution. Almost all the tests work in the same way, where the empirical data distribution (the distribution of observed data) is compared to the theoretical distribution to determine whether they are close. The tests actually work by setting up a null hypothesis (H_O: The empirical distribution equals the theoretical distribution) versus an alternative hypothesis (H_A: The two distributions are different). One can never determine that the empirical distribution is exactly equal to the theoretical distribution - one either rejects the null hypothesis (meaning that the two distributions are different) or one can determine that the possibility that the distributions are equal cannot be ruled out.

This is not the same as accepting that the distributions are equal. The reason for this distinction is that one typically can say that two things are different with high reliability if they actually are different. However, if the test does not reject, it may fail to reject simply because the sample size is not large enough. With small samples, it is impossible to detect truly material differences - in some cases, with small samples it is not even possible to conduct a test. Many of the test statistics used are asymptotic tests, meaning that the test statistic being calculated follows a particular probability distribution only if the sample size is large enough. Statistical tests are based on a series of assumptions and the assumptions must be met for the test to be valid and useful. This includes the requirement that there be enough observations to draw a conclusion.

Procedures Used by Mr. Filler

In order to explicate how Mr. Filler erred in his damages estimates under the deterministic and simulation models, I start by providing an overview of his approach. Mr. Filler argues that Packgen suffered two types of lost profits from the actions of the defendant. On the one hand, Packgen suffered loss of profits from sales to CRI/Criterion and related companies between April 1, 2008 and March 31, 2018. On the other hand, Packgen incurred loss of profits from sales the company was expected to make to 37 different petroleum refineries for the same ten-

year period. In the last section of his designation report, Mr. Filler purports to estimate the lost profits on already cancelled orders.

For the calculation of loss of profits from sales to CRI/Criterion and related companies, Mr. Filler proposed the use of a deterministic and a simulation model to estimate damages. Under the deterministic model, Mr. Filler assumes fixed revenues and costs for a ten year period.

For revenues, Mr. Filler calculates constant sales of 1,261 units, which is based on the average of the units sold between October 2007 and March 2008[3]. He then assigns a fixed sales price of $225 per unit[4], which is different from the observed price of $196.86. The material, freight, and direct labor costs Mr. Filler assumes derive from the minimum and maximum unit costs observed throughout this six-month period. The values for the overhead costs are estimated using a constant of 32,582, a slope of 0.11184, and a standard deviation of 13.67%, obtained through a regression formula explained in Exhibit 5[5]. Note that Mr. Filler also mentions estimates involving a fixed sales price of $196 in his deposition, but is waiting for his attorney to advise him regarding which assumption should be the basis for his opinion.

After having determined a yearly fixed net profit of $1,437,355[6], Mr. Filler discounted this yearly fixed amount at a 22.50% risk-adjusted discount rate using a half-year convention[7]. Mr. Filler's deterministic model estimate lost profits of $6,141,335 for the period between April 1, 2008 and March 31, 2008[8].

The second approach to calculate the lost profits from sales to CRI/Criterion and related companies employed by Mr. Filler involved a simulation model performed in XLSim, which is a computer software program that samples user-defined probability distributions to produce hundreds of possible outcomes.

[3] Filler's Supporting Documentation, Criterion Damages.xlsx, Forecast-Deterministic spreadsheet
[4] Filler's Supporting Documentation, Criterion Damages.xlsx, Forecast-Deterministic spreadsheet
[5] Exhibit 5 of Plaintiff's Expert Witness Designation
[6] Calculated by subtracting fixed costs of $1,967,345 from fixed revenues of $3,404,700
[7] Page 2 of Plaintiff's Expert Witness Designation
[8] Page 2 of Plaintiff's Expert Witness Designation

Under this simulation model, Mr. Filler defined the probability distributions assigned for each component in his model. Mr. Filler specified the use of a normal distribution of the number of units sold, a triangular distribution of the sales price per unit, uniform distributions of material, freight, and direct labor costs, and a normal distribution of applicable overhead costs.[9]

In the case of the normal distribution for unit sales, Mr. Filler calculated an average unit sale of 1,261 units with a standard deviation of 317 units, based on the monthly sales history for Packgen between October 2007 and March 2008[10]. For the triangular distribution, Mr. Filler used $196.86 as the worst scenario unit selling price, $225 as the expected unit selling price, and $275 as the best scenario unit selling price[11]. In the case of the uniform distributions, Mr. Filler assigned a minimum value of $56.63 and maximum value of $72.65 for material costs, a minimum value of $1.06 and maximum value of $3.63 for freight, and a minimum value of $8.60 and maximum value of $15.45 for direct labor costs[12]. Mr. Filler assigned a normal distribution for the overhead costs estimated using a constant of 32,582, a slope of 0.11184, and a standard deviation of 13.67%, obtained through a regression formula explained in Exhibit 5[13].

Mr. Filler ran the simulation model 5,000 times in XLSim and calculated a yearly average net profit of $1,545,796[14]. After having determined a yearly net profit, Mr. Filler discounted this yearly fixed amount at a 22.50% risk-adjusted discount rate using a half-year convention[15]. Mr. Filler's simulation model estimate lost profits of $6,604,669 for the period between April 1, 2008 and March 31, 2008[16].

The second calculation of damages offered by Mr. Filler involved the loss of profits from sales to 37 petroleum refineries. For this estimate, Mr. Filler relied on the same simulation model previously used in the calculation for loss of profits from sales to CRI/Criterion and related

[9] Page 4 of Plaintiff's Expert Witness Designation
[10] Filler's Supporting Documentation, Criterion Damages.xlsx, Forecast-Simulated spreadsheet
[11] Filler's Supporting Documentation, Criterion Damages.xlsx, Forecast-Simulated spreadsheet
[12] Filler's Supporting Documentation, Criterion Damages.xlsx, Forecast-Simulated spreadsheet
[13] Exhibit 5 of Plaintiff's Expert Witness Designation
[14] Page 4 of Plaintiff's Expert Witness Designation
[15] Page 4 of Plaintiff's Expert Witness Designation
[16] Page 4 of Plaintiff's Expert Witness Designation

companies with different probability distributions for unit sold and material, freight, and direct labor costs[17] and the addition of the following two assumptions:

(1) Packgen had a one in ten chance of selling Cougars to each of the 37 refineries[18].

(2) Once sales to a particular refinery being, Packgen will continue to sell Cougars to this refinery through March 31, 2008[19].

Mr. Filler ran this simulation model 5,000 times in XLSim and obtained net profits values between the ranges of ($191,421) in the first year to $31,639 in the tenth year[20]. He then applied a 22.50% risk-adjusted discount rate using a half-year convention to obtain a total net profit of $1,909,073[21].

The last section in Mr. Filler's report offers an estimated loss of profits on cancelled orders. According to Mr. Filler, there were three CRI/Criterion related companies that cancelled purchase orders of $267,990.12[22]. Mr. Filler obtained a loss profit amount of $130,629.93 by subtracting the material, freight, and direct labor costs, and overhead costs averages, which were calculated by adding only the maximum and minimum values in his deterministic model and dividing it by two[23].

Problems with Probability Distributions Chosen

Mr. Filler describes the use of a simulation model to estimate the net profits from lost sales to CRI/Criterion for each year from April 1, 2008 to March 31, 2018[24]. Based on his calculations, the total discounted value of the net profits calculated through his simulation model is $6,604,669[25]. This estimate, however, is based on flawed statistical assumptions that undercut the validity of Mr. Filler's results.

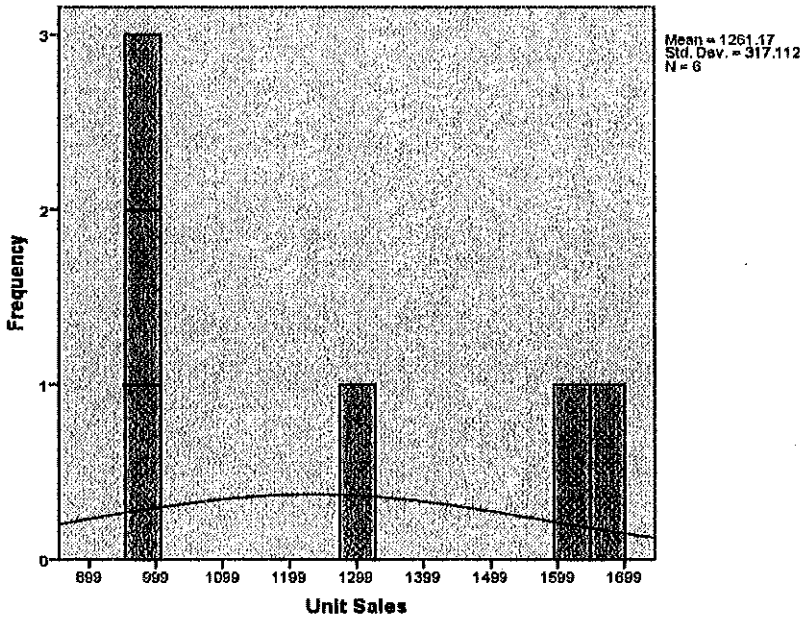
[17] Page 5 of Plaintiff's Expert Witness Designation
[18] Page 5 of Plaintiff's Expert Witness Designation
[19] Page 5 of Plaintiff's Expert Witness Designation
[20] Page 6 of Plaintiff's Expert Witness Designation
[21] Page 6 of Plaintiff's Expert Witness Designation
[22] Page 7 of Plaintiff's Expert Witness Designation
[23] Page 7 of Plaintiff's Expert Witness Designation
[24] Page 4 of Plaintiff's Expert Witness Designation
[25] Page 4 of Plaintiff's Expert Witness Designation

In the following sections, I will explain the deficiency of assigning a normal distribution based on a six-month sales history, the inadequacy of using a triangular distribution based on expected data rather than historic data, and the underlying assumptions of using uniform distributions to forecast certain costs in Mr. Filler's simulation model.

Normal Distribution

Exhibit 2 of Mr. Filler's designation report shows the monthly sales summary from October 2007 to March 2008 for the CRI/Criterion companies. The parameters used in the normal distribution of Mr. Filler's simulation model are based on this six-month period. The following histogram illustrates the distribution of the sales data observed in Exhibit 2, displaying a normal curve as well as the mean and standard deviation of the observations.

Chart 4: Normal Distribution Fit to Mr. Filler's Data



The above histogram clearly demonstrates that the data used by Mr. Filler does not follow a normal distribution. Thus, the parameters calculated from this distribution would, in fact, undermine the results of his simulation model. The distribution of these six points shows that 50 percent of the observations lie in the far left tail of the distribution while 33 percent lie in the far right tail of the distribution, leaving only 17 percent of the observations lying in the middle of the distribution and close to the mean of 1,261.

I rely on common sense to make this determination - from the depiction in Chart 1, it's clear that the normal distribution has the most observations at the center of the distribution, not at the tails. However, there are also tests that can be used to make this determination. Mr. Filler conducts a test that he has pasted into his materials, but doesn't explain what test he chooses. Different tests of the normality of a distribution are oriented towards different characteristics that are inherent in the normal distribution.

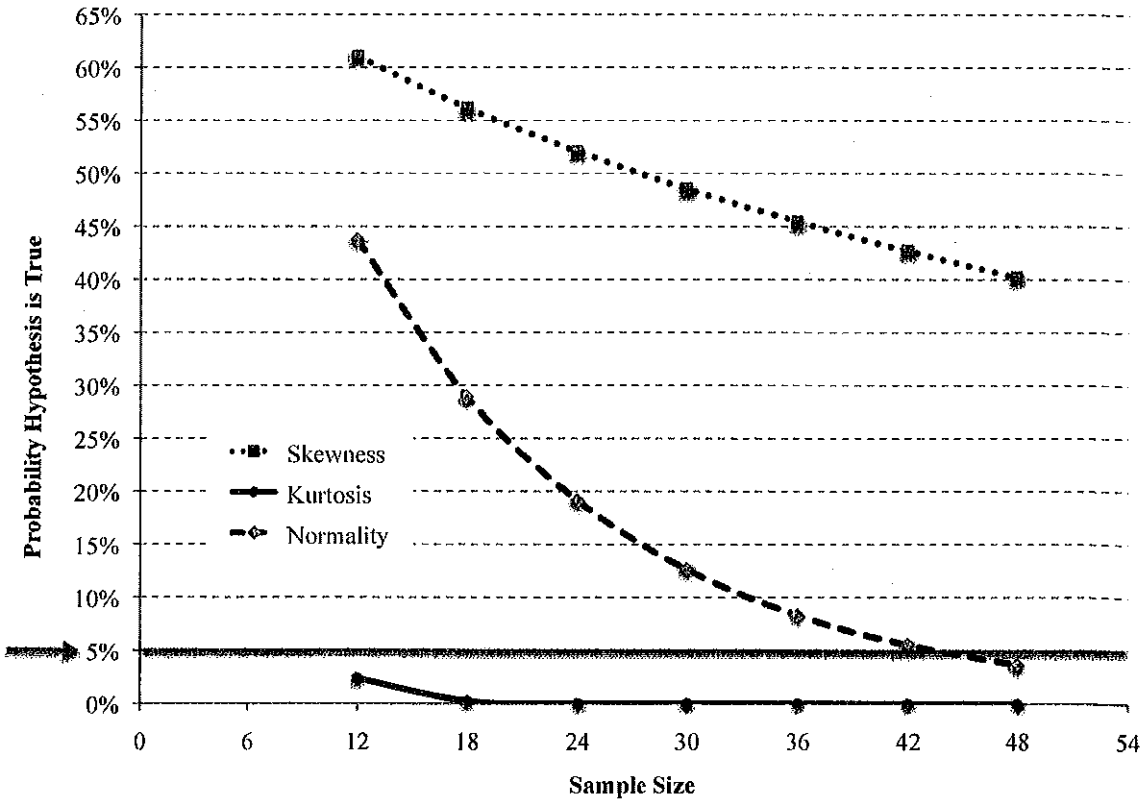
Mr. Filler has a test result that shows that the probability that the data above are not normal is 33%, well above the standard of 5% used in statistical testing. He concludes that, since the test doesn't fail, the data must be normal. His conclusion is simply wrong - his test doesn't reject the normal distribution because the sample size is too low. He only uses six data points. He is unable to conclude anything.

In fact, many of the tests one would use to test for normality cannot be conducted on only six data points, and it is inappropriate to conduct such a test because the test statistic itself has to be based on enough observations to be able to rely on the test statistic (the asymptotic argument I raised in an earlier section). I took Mr. Filler's six observations and attempted to test for normality using three standard tests for normality. The first test determines if the distribution is skew, meaning it leans to the right or to the left. Since the normal distribution is symmetric (bell-shaped), it shouldn't lean in either direction. The second test determines the kurtosis of the distribution. The normal distribution has a standard width defined by the standard error. Once the standard error is set, the proportion of observations in the tails of the distribution is set. If there are more observations in the tails of the distribution than one would expect (meaning that extremes are more likely), then the test of kurtosis fails. Finally, there is a standard test that considers both skewness and kurtosis simultaneously, called a normality test. All three are presented in Chart 5 below.

I started with Mr. Filler's six observations, and the computer program I was using did not allow a test to be conducted. Most reputable statistical packages attempt to protect the user from attempting a test that is meaningless or drawing conclusions that are not supportable. I doubled

the number of observations by entering Mr. Filler's six observations twice, for a total of 12 observations. This guarantees that exactly the same skewness and kurtosis values are computed (it's the same observations, just doubled), but the test is dependent in part on the number of observations. Then I repeated entering the observations a third time, a fourth time, a fifth time, and a sixth time.

Chart 5: Three Tests of Normality Using Mr. Filler's Data



In all of these cases the same skewness and kurtosis values are the result for the distribution of observations used by Mr. Filler - only the sample size changes. As seen in Chart 5, the kurtosis test fails at 12 observations - the distribution can't be normal because all the observations are in the tails, not the center. This is the same as the common sense result I cite earlier. The skewness test does not fail, but it is declining in value indicating that there is some skewness, but a decision point would require many more observations. However, the best of the three tests, since it tests for both characteristics simultaneously, rapidly declines and is rejected by the time we

reach 48 observations. In my experience, this is a very small number of observations for rejection of the normality of a distribution.

Mr. Filler's conclusion that the distribution of sales is normal is wrong. He cannot conclude that - his test only fails to reject, it does not accept the hypothesis that the distribution is normal. Standard tests, tests that are different than the one cited by Mr. Filler and that are commonly used in statistics, either cannot be computed because the sample size is so small, or indicate that for a slightly larger sample size we would conclude just the opposite of Mr. Filler. Mr. Filler has incorrectly applied a test, has not described the test, has not given us the computation of the test statistic he presents, and incorrectly interprets the results of his test. He has no basis for use of this probability distribution in his work, but the simulation relies heavily on the assumption of normality to compute outcomes that Mr. Filler relies on.

Triangular Distribution

In his deposition, Mr. Filler argues for the use of a triangular distribution for sales prices[26]. A triangular distribution is based on the knowledge of the maximum, minimum, and mode values. In this case, Mr. Filler assigned the best (maximum), worst (minimum), and expected (mode) prices based on various conversations he had with Mr. Lapoint[27].

Mr. Filler further denotes that the parameters of his triangular distribution were not based on historic or financial information but rather expectations about the price increase that Mr. Lapoint was considering for the near future[28]. By doing this, Mr. Filler introduces the assumption that the expected price increase determined by Mr. Lapoint would be accepted by Packgen customers, disregarding the possibility of cancellations and losing sales to competitors.

In addition to the unsupported assumption that Packgen customers will accept the price increases proposed by Mr. Lapoint, Mr. Filler fails to account for the possibility of other external factors impacting the behavior of prices in the future, such as raw materials. Mr. Filler did not perform additional tests and/or analyses to determine the appropriateness of the price estimates suggested

[26] Page 32 of Filler's Transcript Deposition
[27] Page 38 of Filler's Transcript Deposition
[28] Page 37 of Filler's Transcript Deposition

by Mr. Lapoint[29]. The assumptions underlying the selection of the parameters for the triangular distribution in Mr. Filler's simulation model invalidate his calculations because prices could actually be lower than his lowest point in his distribution, and alternatively prices could be higher than the highest point in his distribution. He unnecessarily limits the range of prices to unsupported speculation by Mr. LaPoint. Further, the limits are unrealistic relative to an assumption regarding expanding the market to the 37 refineries, where prices may decline.

Uniform Distribution

A uniform distribution relies on the premise that each random variable has the same probability density. By assuming uniform distributions for material, freight, and direct labor costs, Mr. Filler is inherently assigning a fixed range of possible outcomes with equal probabilities of occurrence that remains constant throughout time.

In the simulation model, Mr. Filler predetermined the minimum and maximum values of the uniform distributions based on historic information between 2007 and 2008. In other words, Mr. Filler assumes that the minimum and maximum values obtained for material, freight, and direct labor costs between 2007 and 2008 encompass all the possible outcomes for the future; thus disregarding the possibility of observing lower or higher values for these costs.

The estimate calculated in Mr. Filler's simulation model is necessarily dependent on the type of distributions assigned to each component in his model. By assigning an erroneous distribution or defining the parameters of the distribution based on limited and deficient data, the results produced by Mr. Filler's simulation model are incorrect.

Problems with Probability Distribution Parameters Chosen

In the simulation model used to calculate the loss profits from sales to CRI/Criterion and related companies, Mr. Filler defined the parameters for the normal, triangular, and uniform distributions. The mean and standard deviation of the distribution for unit sales were based on six observations ranging from 999 units to 1654 units. In fact, 3 of the 6 observations are 999

[29] Page 38 of Filler's Transcript Deposition

units, 2 of the 6 observations are above 1600 units, and only 1 of the 6 observations falls within the middle of the distribution with 1,278 units, as determined by a mean of 1261 units.

From a statistical standpoint, the distribution of unit sales, based on the six month period, does not represent a normal distribution. The fact that only one observation is found around the mean and the rest are spread on the far left and right tails of the distribution tells me that the parameters used in Mr. Filler's simulation model are erroneous and any estimates derived from the use of these parameters would produce flawed results.

In the same way, Mr. Filler defined the parameters for the triangular distribution of selling prices by using the observable current price of $196.86 as the worst case scenario (minimum) and relying on Mr. Lapoint's estimates of $275 as the best case scenario (maximum) and $225 as the expected case scenario (model)[30]. Given that the estimates proposed by Mr. Lapoint do not consider external factors, such as the price of raw material, level of competition, substitute products, price of suppliers, etc., the parameters Mr. Filler used for the triangular distribution are, consequently, inadequate and any conclusions derived from this distribution would produce biased results.

The parameters used in the uniform distributions of material, freight, and direct labor costs are derived from the minimum and maximum values observed in throughout the six-month period[31]. By assigning a uniform distribution, Mr. Filler is rejecting the possibility of obtaining lower costs than the minimum and higher costs than the maximum. Similarly, Mr. Filler is also assigning an equal probability of occurrence to each event in this distribution that remains constant over ten years. These underlying assumptions create severely flawed limitations in Mr. Filler's estimation of future loss of profits.

Problems with Assumption of Constant Costs and Revenues

Mr. Filler assumes that costs and revenues are constant. The problem with this assumption is that his own data shows that these assumptions are very unrealistic.

[30] Page 37 of Filler's Transcript Deposition
[31] Exhibit 5 of Plaintiff's Expert Witness Designation

I took all the material cost files from 2002 through 2008 for Cougars Mr. Filler produced and loaded his individual files into a single database. I then tabulated the average cost per unit by year. There were 1,369 items purchased at least once during this seven year span. Of those, only 152 items were purchased in three or more years. Of these, seven maintained the same price over all time periods, 52 had a price decrease from the first time purchased to the last time purchased, and 93 had a price increase from the first time purchased to the last time purchased.

Examining the ratio of the price changes, the average price increase is also larger than the average price decrease, so there are more price increases AND the price increases on average are larger. Mr. Filler's assumption of constant prices is contradicted by his data, which shows that on average the unit prices for items he includes in his analysis as material costs are increasing. Since material costs are by far the largest of the three pricing components, this means that costs in general are increasing, not remaining the same.

Chart 6: Ratio of Price Changes from First Year Purchased to Last Year Purchased for Items Purchased in More than Two Years

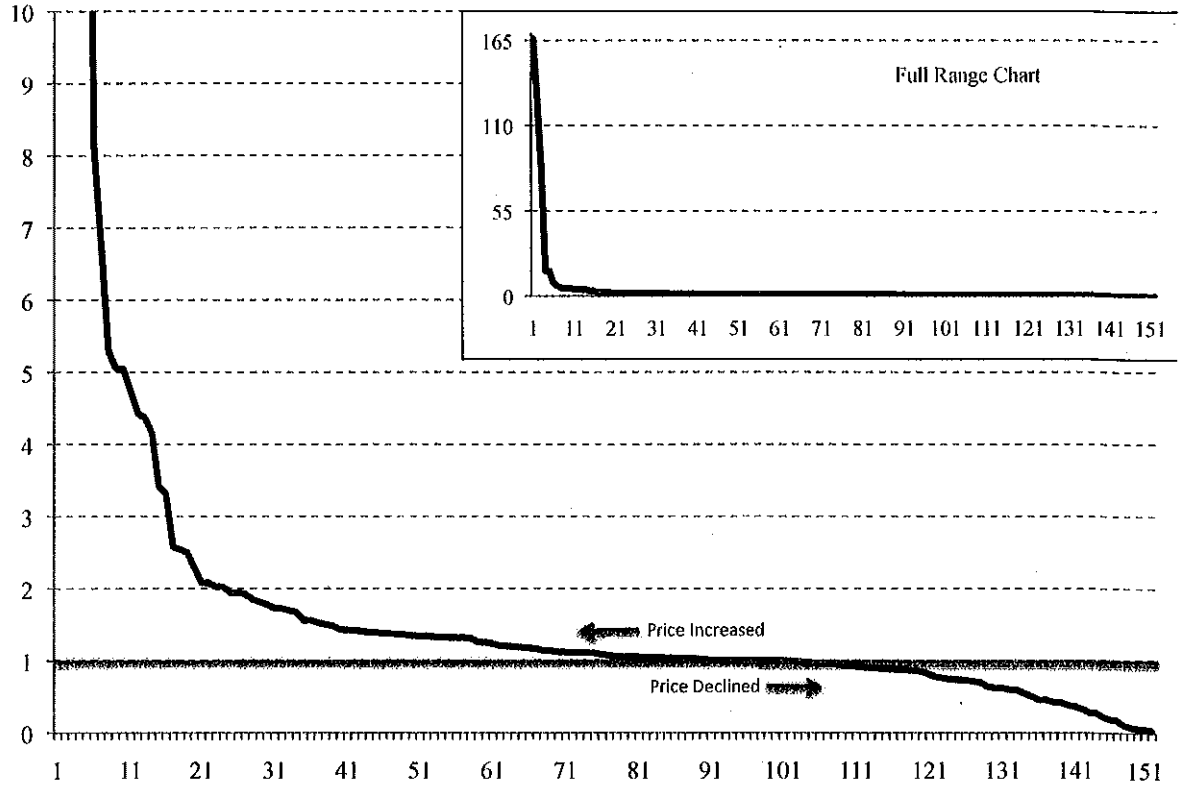


Chart 6 presents the ratio of price changes from the first year an item is purchased until the last year the item is purchased. As noted above, there are significantly more increases than decreases, and the increases are on average greater than the decreases.

At the same time, Mr. Filler argues that the plaintiff is attempting to expand into new markets, most notably the 37 refineries. Typically, to attract new customers, one reduces prices, meaning revenues may decline, not increase. The combined effect of rising prices and declining gross revenues would dictate that net profits would decline in the future, not remain constant. Mr. Filler, in both the deterministic and the simulation models, uses assumptions for his projections that are clearly wrong and that are contradicted by his own data and his other assumptions.

Problem with Simulation as Implemented

Using the incorrect probability distributions and using biased parameters in the definition of the probability distributions are not the only problems in the simulation. Because the values can and should change over time, the simulations are invalid because they hold constant every value over time - over the entire ten years.

But Mr. Filler doesn't even apply his simulation in future years. His Excel spreadsheets show that he runs a simulation in the first year, and then in the next years he copies exactly the same value from the first column to every other column. In other words, he could have taken the first column and multiplied by ten to obtain a total. This is not a valid methodology in simulation, since the assumption Mr. Filler makes in the first year is that the costs and revenues would be random according to an underlying process he specifies. If the process is random in one year, it would be random every year.

Even if everything else Mr. Filler did was correct, this one flaw undercuts his results since it grossly understates the variability inherent in his modeling effort in the simulations. The estimates he produces should meet the standard of being valid to a degree of substantial certainty. Mr. Filler cannot say how certain he is about his results, since he only simulates his

first year and ignores any other variation that may result in the outcomes, including the possibility of negative losses that would certainly result from his use of the normal distribution.

Problem with Projections for Refineries

Mr. Filler estimates loss of profits of $1,909,073 from expected sales to 37 petroleum refineries for the period between April 1, 2008 and March 31, 2018[32]. Even though Mr. Filler relied on the same simulation model used to calculate the loss of profits from sales to CRI/Criterion and related companies, he assigned different distributions for some of the same components in his model.

In the calculation of lost profits from sales to CRI/Criterion and related companies, Mr. Filler used the normal distribution to model the number of units sold and uniform distributions to model material, freight, and direct labor costs. In his calculation of lost profits from expected sales to the 37 petroleum refineries, Mr. Filler assigned triangular distributions for the number of units sold and to material, freight, and direct labor costs. See Table 1 below.

Table 1: Probability Distribution Chosen for Different Analyses

Factor	CRI/Criterion and related companies	37 Refineries
Sales	Normal	Triangular
Material	Uniform	Triangular
Freight	Uniform	Triangular
Direct Labor	Uniform	Triangular

The selection of different distributions for some of the same components in his simulation model is another error that invalidates Mr. Filler's estimation methods. Mr. Filler attempts to conduct a test regarding the distribution of sales in his calculations for CRI/Criterion and he concludes that the sales variable is normally distributed. If this is his conclusion, then he cannot use a

[32] Page 5 of Plaintiff's Expert Witness Designation

different distribution elsewhere. Note also that the distributions in column two (all triangular) will give substantially different results in simulations than the distributions in column one (normal and uniform) - they are forced to be different because they involve very different probabilities applied to the same variable.

The parameters specified in Mr. Filler's triangular distribution for units sold depend on the expected sales across 37 different petroleum refineries for which, according to Mr. Filler, there has never been a history of sales[33]. Similarly, the parameters that Mr. Filler assigns for material, freight, and direct labor costs in his triangular distribution are different from the historic costs charged to CRI/Criterion and related companies[34]. In other words, Mr. Filler decided to speculate on the material, freight, and direct labor costs to the 37 petroleum refineries instead of using the observable historic material, freight, and direct labor costs charged to CRI/Criterion and related companies.

The fact that Mr. Filler does not provide support for selecting different distributions for similar components in his simulation model and frequently decides to use expected values based on speculation rather than historic values, particularly for costs, demonstrates that the estimated loss of profits from sales to the 37 petroleum refineries is based on severe internal inconsistencies and cannot lead to determinations with any degree of substantial certainty. In fact, they must lead to severe confusion since the methods are so internally inconsistent.

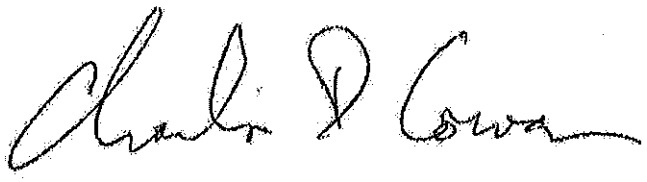
Further, as noted earlier, Mr. Filler assumes that, with no changes in pricing (due to no changes in revenues), the plaintiff will be able to develop sales to 10% of the refinery market per year. If an additional ten percent of the remaining market is added each year and no portion of the market is lost, the minimum market share after year ten would be about 65%. This can be computed by taking current market share and adding 10% of the remaining market share each year. If the current market share is zero, after ten years it would be slightly over 65%.

[33] Page 50 of Filler's Transcript Deposition
[34] Page 51 of Filler's Transcript Deposition

With no changes in pricing, this seems implausible. Even more implausible is the idea that only the Plaintiff would gain market share and the other competitors in the market, who currently control most or all of the market, would not act to retain or win back some of the market share being lost. Mr. Filler's assumptions lead to a conclusion that simply does not hold under any statistical or economic theory.

Summary

Mr. Filler's estimates are based on incorrect assumptions and incorrect uses of statistical theory and methods. His results do not lead to any supportable conclusions and are not reliable to any degree of substantial certainty.



Charles D. Cowan
August 31, 2012

Exhibit 1: Materials Relied On

Plaintiff's Expert Witness Designations

Filler's Supporting Documentation, Criterion Damages.xlsx, Forecast-Deterministic spreadsheet

Filler's Transcript Deposition

Evans, Merran, Hastings, Nicholas, and Peacock, Brian. Statistical Distributions, Second Edition, Wiley Interscience, New York, 1993

CHARLES D. COWAN, Ph.D.
ANALYTIC FOCUS LLC

KEY QUALIFICATIONS

Charles D. Cowan is Managing Partner of ANALYTIC FOCUS LLC. Dr. Cowan has 30 years of experience in statistical research and design. He consults for numerous public and private sector entities on the design, implementation, and evaluation of research and the synthesis of statistical and sampling techniques for measurement.

Dr. Cowan has designed some of the largest and most complex research programs conducted by the Federal Government, including the Post Enumeration Program conducted by the Bureau of the Census to evaluate the 1980 Decennial Census, the Economic Cash Recovery valuations conducted by the Resolution Trust Corporation in 1990-95, and many evaluation studies conducted for the Justice Department, the Department of Defense, the Department of Housing and Urban Development, and the Treasury Department. He has provided expert advice to corporations and government agencies on the incorporation of complex research designs in demographic and economic measurement problems, including:

- Development of procedures used by the Resolution Trust Corporation and the FDIC for determination of the value of all assets held by the RTC\FDIC taken from failed banks and S&Ls. Results from this research were used in quarterly reports to Congress on the loss to the American taxpayer that resulted from these failures. These estimates of anticipated recoveries on assets were also used by the RTC and FDIC for financial reporting, leading these agencies to their first clean opinions from the GAO in their annual review of agency financial statements.

- Establishment of audit and sampling methods to determine the completeness and reliability of reporting and record systems. These procedures were used to both expand and streamline bank examinations for safety and soundness and also compliance measurement for the FDIC. These sampling techniques are applied in the audit of Federal agencies concerned with regulatory review of operations and systems, and related systems for banks, regulatory agencies, and law firms;

- Application of econometric and biometric procedures for measurement of credit risk in large portfolios of loans. These models are frequently used for a variety of purposes within financial institutions, such as the pricing of loans, the management of customers long term, decision making on workouts for delinquent loans, and for establishment of economic and regulatory reserves.

- Evaluation of research conducted for the Department of Defense, for the National Institutes of Health, and for the Department of Agriculture, each in response to Congressional inquiries on the validity of published results, and also for defendants in lawsuits involving evidence proffered by plaintiffs in furtherance of their suit.

- Model fitting and development of projection methods to measure the likelihood of loss or errors in recording in loans held by banks or put up for auction; measurement of the likelihood of fraud and/or noncompliance in systems, including bank holding companies, trading activities for brokers, and systems for compliance with health department and judicial requirements;

- Incorporation of population demographic models with financial assessment models to predict risk for insurance companies and corporations in terms of number and value of potential claims in mass tort litigation.

- Development of procedures used by the Bureau of the Census for apportionment of population for revenue sharing purposes and the estimation of the undercount in the Decennial Census of Population and Housing. These procedures include application of capture-recapture methods to measure the size of the undercount in the decennial census, use of network sampling as an alternative measure for population size, and measurement of the reliability of data collected in the Census.

- Development of statistical methods to quantify the size of populations, including nomadic populations for the Census of Somalia, the undercount and overcount in the Census of Egypt, the number of missing children in Chicago, IL, and the number of homeless persons and families needing services in several large cities with transient populations.

Dr. Cowan teaches graduate and undergraduate courses in survey methods, statistics, and computer methods for analysis. He is the co-author of two books, one on evaluation of survey and census methods and one on econometric measures related to the welfare of the U.S. economy. He has written numerous articles on statistical methods, sampling, rare and elusive population research, and optimization techniques.

Prior to cofounding ANALYTIC FOCUS LLC, Dr. Cowan was a Director with ARPC and with Price Waterhouse, where he specialized in financial research, survey research, and audit sampling. From 1991 to 1996, Dr. Cowan was the Chief Statistician for the Resolution Trust Corporation and the Federal Deposit Insurance Corporation, where he designed research necessary to measure the loss from the Savings & Loan Crisis of the late 1980's and capitalization requirements for the RTC funds from the U.S. Treasury. Dr. Cowan also served as the Chief Statistician for the U.S. Department of Education, where he designed large-scale surveys of educational institutions to measure resource needs and availability, and for Opinion Research Corporation, where he designed predictive models of demand for automobile manufacturers, banks, and large horizontally diverse firms like GE and AT&T. Dr. Cowan worked for the U.S. Bureau of the Census, where he was the Chief of the Survey Design Branch and developed many of the techniques in use today for the evaluation of coverage in surveys and censuses.

EDUCATION

Ph.D., Mathematical Statistics, The George Washington University, 1984
M.A., Economics, The University of Michigan, 1973
B.A., English and B.A., Economics, The University of Michigan, 1972

PROFESSIONAL EXPERIENCE

Co-Founder, ANALYTIC FOCUS LLC, January, 2002 to present.
Director, ARPC, November, 1999 to December, 2001.
Director, PricewaterhouseCoopers LLP, January 1997 to November, 1999.
Chief Statistician, Federal Deposit Insurance Corporation / RTC, 1991 to 1996.
Chief Statistician, Opinion Research Corporation, 1989 to 1991.
Chief Statistician, National Center for Education Statistics, US Dept. of Education, 1986 to 1989.
Bureau of the Census: Assistant Division Chief, International Statistical Programs Center, 1984 to 1986; Staff Liaison for Statistical Litigation Support, 1983 to 1984; Chief, Survey Design Branch, Statistical Methods Division, 1978 to 1983; Acting Chief, Survey Analysis and Evaluation Branch, Demographic Surveys Division, 1976 to 1978; Office of the Chief, Statistical Research Division, 1975 to 1976
Survey Research Center, Oregon State University: Manager, 1974 to 1975
Institute for Social Research, U. of Michigan: Assistant Study Director, 1972 to 1974.

PROFESSIONAL ASSOCIATIONS

Adjunct Full Professor, Statistics, University of Alabama – Birmingham, 2002-present.
Associate Professor, Statistics, George Washington University, 1993 - 1998.
Visiting Research Professor, Survey Research Laboratory, U. of Illinois, 1983 - 1989.
Consultant, Dept. of Community Psychiatry, Johns Hopkins U., July 1985 - Dec 1987.

PROFESSIONAL SOCIETIES – MEMBERSHIPS

American Statistical Association (ASA)
American Association for Public Opinion Research (AAPOR)
International Association of Assessment Officers

PROFESSIONAL SOCIETIES - POSITIONS

President, Research Industry Coalition, 1999-2000
Council Member, Research Industry Coalition, Representative from ASA, 1995-2000
President, Washington/Baltimore Chapter of AAPOR, 1998
Program Chair, American Association for Public Opinion Research, 1991-2
Program Chair, Section on Survey Research Methods, ASA, 1989-90
Secretary-Treasurer, AAPOR, 1985-1986
Associate Secretary-Treasurer, AAPOR, 1984-1985
Editorial Board, Public Opinion Quarterly, 1980-1984
Editorial Board, Marketing Research, 1989-2000
Chair, Conference Committee, AAPOR, 1982-1989
Chair, Committee on Privacy and Confidentiality, ASA, 1980-1981

PUBLICATIONS

Strumpel, Burkhard; Cowan, Charles; Juster, F. Thomas; and Schmiedeskamp, Jay; editors, Surveys of Consumers 1972-73, Contributions to Behavioral Economics, Ann Arbor: The Institute for Social Research, 1975.

Duncan, Greg, and Cowan, Charles D., "Labor Market Discrimination and Nonpecuniary Work Rewards" in Surveys of Consumers 1972-73, Contributions to Behavioral Economics, Ann Arbor: The Institute for Social Research, 1975.

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Spoeri, Randall K., and Cowan, Charles D., "On the Use of Distance Measures in Test Site Selection: A Practical Application Using Census Data", Proceedings of the American Statistical Association, Section on Business and Economic Statistics, 1978.

Cowan, Charles D.; Murphy, Linda R.; Wiener, Judy, US Bureau of the Census, "Effects of Supplemental Questions on Victimization Estimates from the National Crime Survey" in Proceedings of the American Statistical Association, Section on Survey Research Methods, 1978.

Bateman, David V.; Cowan, Charles D., US Bureau of the Census, "Plans for the 1980 Census Coverage Evaluation" in Proceedings of the American Statistical Association, Section on Survey Research Methods, 1979.

Hogan, Howard, and Cowan, Charles D., "Imputations, Response Errors, and Matching in Dual System Estimation", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1980.

Schwartz, Sidney H., Cowan, Charles D., and Sausman, Kenneth R., "Optimization in the Design of a Large-Scale State Sample", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1980.

Cowan, Charles D., "Modifications to Capture-Recapture Estimation in the Presence of Errors in the Data" presented at the meetings of the American Statistical Association, Biometrics Section, 1982 (no proceedings).

Fay, Robert; Cowan, Charles, US Bureau of the Census, "Missing Data Problems in Coverage Evaluation Studies" in Proceedings of the American Statistical Association, Section on Survey Research Methods, 1983.

Cowan, Charles D.; Fay, Robert E., "Estimates of Undercount in the 1980 Census" in Proceedings of the American Statistical Association, Section on Survey Research Methods, 1984.

Cowan, Charles D. "Interviews and Interviewing", The Social Science Encyclopedia, Routledge and Kegan Paul, Publishers, The Netherlands, 1984.

Wei, L. J. and Cowan, Charles D. "Selection Bias", Encyclopedia of Statistical Science, John Wiley and Sons, New York, N.Y., 1984.

Cowan, Charles D. and Malec, Donald J. "Capture-Recapture Models When Both Sources Have Clustered Observations", Journal of the American Statistical Association, June 1986, Vol. 81, # 394, pp. 347-353, and Proceedings of the American Statistical Association, Section on Survey Research Methods, 1984.

Cowan, Charles D., The Effects of Misclassification on Estimates from Capture-Recapture Studies. Unpublished doctoral dissertation, The George Washington University, September 1984.

Sudman, Seymour; Cowan, Charles D., "Questionnaire Design Activities in Government Statistics Offices" in Special Issue on Questionnaire Design, Journal of Official Statistics, Vol. 1, No. 2, 1985.

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Cowan, Charles D., Breakey, William R., and Fischer, Pamela J. "The Methodology of Counting the Homeless", Proceedings of the American Statistical Association, Section on Survey Research Methods, 1986.

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Sudman, Seymour, Sirken, Monroe G., and Cowan, Charles D., "Sampling Rare and Elusive Populations", Science, Vol. 240, pp. 991-996, May 20, 1988.

Cowan, Charles D., "Mall Intercepts and Clinical Trials: The Philosophy of Inference from Different Types of Research Designs" in Marketing Research: A Magazine of Management & Applications, Vol. 1, No. 1, March 1989.

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Cowan, Charles D., "Ratio vs. Regression Estimators in a Large Scale Survey of S&L's" in Proceedings of the Section on Survey Research Methods, American Statistical Association, 1992.

Cowan, Charles D., "A Longitudinal Survey and Reality Check for the Value of Financial Assets" in Proceedings of Statistics Canada Symposium 92: Design and Analysis of Longitudinal Surveys, November 1992.

Cowan, Charles D., and Wittes, Janet, "Intercept Studies, Clinical Trials, and Cluster Experiments: To Whom Can We Extrapolate?" in Controlled Clinical Trials, Vol.15, pp.24-29, 1994.

Cowan, Charles D.; Klena, Mathew J., Resolution Trust Corp, "Allocation of Proceeds from Bulk Auctions to Individual Assets" in Proceedings of the American Statistical Association, Section on Business and Economic Statistics, 1995.

Cowan, Charles D., "Coverage, Sample Design, and Weighting in Three Federal Surveys" in Journal of Drug Issues, October 2001.

Cowan, Charles D., "Use of Mass Appraisals in Toxic Tort Litigation Involving Loss of Value" in Proceedings of the International Association of Assessment Officers, October 2002.

Cowan, Adrian M. and Cowan, Charles D., "Default Correlation: An Empirical Investigation of a Subprime Lender", The Journal of Banking and Finance, March 2004.

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Keith, Scott W., Wang, Chenxi, Fontaine, Kevin R., Cowan, Charles D. and Allison, David B. , "Body Mass Index and Headache Among Women: Results From 11 Epidemiologic Datasets", Obesity, Volume 16, Issue 2 (February 2008) 16: 377-383; doi:10.1038/oby.2007.32

Cowan, Adrian M. and Cowan, Charles D., "The Dynamics of Credit Quality and Implications for the Pricing of Small Business Loans", The International Journal of Banking and Finance, 2007/08 (March) Vol. 5. Number 2:2008: 31-60

Brock, David W., Thomas, Olivia, Cowan, Charles D., Hunter, Gary R., Gaesser, Glenn A., and Allison, David B., Association between Physical Inactivity and Prevalence of Obesity in the United States, Journal of Physical Activity and Health, January, 2009

Past Experience – Charles D. Cowan

Financial:

Charles P. Haggarty and Gina M. Haggarty, et al v. Wells Fargo Bank, N.A.. Plaintiffs claimed that Wells Fargo changed the basis for indexing loan interest rate changes in an unfair manner to the detriment of a class of borrowers with Wells Fargo loans. Worked for plaintiffs. Deposed in August 2012.

Veronica Gutierrez, Erin Walker, and William Smith v. Wells Fargo Bank, N.A.. Plaintiffs claimed that Wells Fargo instituted a reordering of debit card charges to maximize fee income from overdrafts without notifying depositors of the overdraft program or changes in the processing method. Worked for plaintiffs. Deposed in March 2009. Case settled.

A.D. Alberton and Mark C. Kessler v. Commonwealth Land Title Insurance Company. Plaintiffs claimed that Commonwealth overcharged title policy purchasers by not giving discounts mandated by the State of Pennsylvania. Worked for defendant. Deposed in November 2009. Case settled.

MBIA v. Countrywide Home Loan et al. Plaintiffs claimed that Countrywide and its affiliates breached representations and warranties of its underwriting standards, committed fraud and made certain misrepresentations in the securitization of its loans for sale to investor trusts, breached representations and warranties of its servicing guidelines, and violated its contractual obligations to accept loans that were put back because of the breaches of underwriting standards. Developed sampling methods to help assess each of the claims. Hearing on motion *in limine* in NY State Court regarding the acceptability of sampling for offering evidence in financial trials, September 2010. Deposition, August 2012.

In re: Countrywide Financial Corp. Mortgage Marketing and Sales Practices Litigation, Class Action. Class action against Countrywide regarding fraudulent inducement and harm to borrowers who were given loans outside the underwriting standards established by Countrywide. Calculated damages and offered opinion on commonality of class and predominance of issues. Worked for plaintiffs. Deposed in May 2011. Class certification denied.

Deceptive Sales Practices:

Executech v. Appleton Papers, circa 1998. Deposed, testified at class certification hearing. Class denied. Issue was whether Appleton Papers colluded with other manufacturers in the pricing of thermal fax paper products. Appleton had already won an antitrust case in Federal court on same issue. Conducted survey of pricing of product throughout Florida and proved that pricing of product was so discretionary at retail level that it was impossible to consider whether producer pricing had claimed impact at retail level. Case cited by Third District Court in Florida when tobacco class ruling in Florida was overturned on appeal.

Watkins et al. v. Dry Cleaners International, 2003. Not deposed, case settled before class hearing. Worked for defendant. Issue was whether DCI had properly informed customers of surcharge imposed to cover environmental costs. Plaintiffs claimed customers were confused and thought charge was improperly imposed tax. Survey conducted, damages calculated.

Fidelity Mortgage v. Seattle Times. Deceptive Trade Practices in Seattle Washington. Deposition in 2004. Worked for plaintiff. Damages calculated on lost sales because of publication of false interest rates. Case settled.

Irena Medavoy v. Arnold Klein, M.D. et al.. Deceptive Sales practices case in California involving Botox, representing the cosmetics manufacturer. Worked for defendant. Deposed in 2004, case dismissed.

Armor Screen v. Storm Catcher et al. **Deceptive Sales practices** and **Patent Infringement** case in Florida involving two manufacturers and sellers of hurricane protection equipment. Worked for plaintiff. Survey conducted, damages calculated. Deposed in January 2009. Case settled.

Construction Defects:

Silver Pines Homeowners Association et al. v. Silver Pine Builders et al. **Construction Defects** Damages case regarding the calculation of damages based on a sample of housing units inspected and resulting damages extrapolated to the full population of units built in a new subdivision. Worked for defense. Case settled – deposition, May 2007.

in re KITEC Fitting Litigation. Construction Defects damages case regarding the calculation of damages based on use of survival models for KITEC water fittings. Asked to rebut testimony that 95+% of all fittings would fail based on survival analysis. Worked for defense. Deposition, March 2009. Case settled.

in re WIRSBO Fitting Litigation. Construction defects damages case regarding use brass fittings in plumbing. Asked to testify in evidentiary hearing regarding the use of sampling to determine liability. Worked for the plaintiffs. Hearing, February 2012. Case ongoing.

Patent Infringement:

Smith & Nephew v. Zimmer, circa 1999. Deposed, then case settled. Worked for defendant who admitted infringing on patent but claimed that the particular feature upon which they infringed was not important. Product was hip replacement "cup" and "stem", and feature was machining of cup to minimize friction. We conducted a survey of physicians to determine what features were important to the selection of a hip replacement part. We used the survey to calculate damages; results were used in the settlement deliberations.

Trademark Infringement:

Quiksilver v. Brunswick, circa 1997. Deposed, case settled. Worked for the defendant, who had started producing t-shirts under brand name Quicksilver, one of their boat lines. The boat line could be named Quicksilver, but Quiksilver produces "surfer" clothes and were concerned about trademark confusion. We conducted a survey to determine level of confusion and the likely damages caused. Brunswick dropped the t-shirt line and settled.

St. Johns Knits versus St. Johns, circa 1997. Deposed, case settled. Small firm in California named itself St. Johns and began to produce ladies casual apparel with name of St. Johns. Worked for plaintiff, conducting survey on trademark confusion and calculating damages.

Nitro Leisure Products v. Acushnet. **Antitrust,** Trademark, and Deceptive Sales Practices filed in Florida. Deposition in 2003, settled in 2004. Worked for defendant. Issue was whether claims regarding the performance of "used and repackaged" golf balls were valid. Survey conducted, used to support damage claims. Second simultaneous suit was Acushnet v. Nitro – work used in settlement of the two simultaneously.

Community First Bank v. Community Banks. Trademark infringement. Deposition, October, 2004. Worked for Defendant. Issue was that Pennsylvania based Community Banks, a multi-state bank, opened branches in Northern Maryland. Community First Bank claimed it already had a charter in Maryland and the intrusion of Community Banks diminished the value of their name. Case resolved in favor of Defendant – dismissal on Summary Judgment.

Ultra Enterprises v. Ultra Records. Trademark infringement. Deposition, July 2012. Worked for Plaintiff. Issue was that Ultra Records, a record producer, changed its name to Ultra Music. Ultra Enterprises is

the main promoter for the Ultra Music Festival, for which it has a mark. Ultra Enterprises filed against Ultra Records to obtain a name change away from Ultra Music and for damages. Case on-going.

Trade Dress:

Sound Board Manufacturer v. European Manufacturer. Trade dress infringement. Worked for plaintiff. Circa 1997. Issue was that European manufacturer bought a sound board from U. S. manufacturer, reverse engineered it, and sold their copy with exactly same layout and design in competition with U.S. manufacturer. Conducted survey of bands, churches, small recording studios, and other potential purchasers of mid-price sound boards. Case settled.

Guntersville Breathables v. Kappler. Trade dress infringement. Worked for plaintiff. 2004. A manufacturer of camouflage hunting clothes developed a unique camouflage design and used it for their primary line of clothes. A second manufacturer bought materials from same fabric company and produced exactly the same design for hunting clothes sold in similar outlets to the same population of hunters. Survey designed and implemented. Case settled.

VPX v. ABB. Trade dress infringement. Worked for defendant. 2006-7. A manufacturer of liquid energy drinks sold in gyms, health clubs, and big box retailers filed suit against another manufacturer of liquid energy drinks, claiming that the shape and type on the bottles of the defendant were the same as that of the plaintiffs and caused confusion among potential purchasers. Conducted surveys of potential purchasers of liquid energy drinks to determine whether confusion exists. Deposition in January 2007, testimony in bench trial in January, 2007. Decision for Defendant.

Toxic Tort:

Three separate **Toxic Tort** property value diminution cases filed in Florida between 1998 and the present. All three cases were environmental contamination cases, with class actions brought against manufacturer. Worked for defense in all three cases on class certification issues and damages calculations. Deposed in last case, First Case class was not certified, Second case settled. Third: Bernice Samples, et al, v. Conoco, Inc.; Agrico Chemical Company; and Escambia Treating in the Circuit Court of the First Judicial Circuit in and for Escambia County, FL, Division: "J", June 2002, Deposition; Case settled.

State of Oklahoma v. Tyson Foods et al. Pollution case brought against Tyson, Cargill, and other poultry processors. Claim made that Illinois River Watershed was polluted with field runoff from distribution of poultry litter. Worked for the defense in review of analyses by experts for the state. Deposed, February 2009; Case mostly resolved as experts for the State were excluded from testifying based on a Daubert-decision. Case dismissed.

Vigililo v. Ryland Homes. Claim of diminution of value in residential neighborhood due to discovery of unexploded ordnance in an area proximate to the neighborhood. Analyzed methods of determining diminution and the availability of data from the analysis. Deposed, July 2009. Case dismissed.

Other Antitrust:

North Jackson Pharmacy, Inc. et al v. Express Scripts, Inc. et al. Independent Pharmacies filed an antitrust case against Pharmacy Benefit Managers (PBMs). Worked for plaintiffs. Deposed in July, 2005; class certified. Case moved to Multi-District Consolidation.

North Jackson Pharmacy, Inc. et al v. Caremark Pharmacies filed an antitrust case against Pharmacy Benefit Managers (PBMs). Worked for plaintiffs. Deposed in May, 2006; class certification pending, case moved to Multi-District Consolidation.

Fair Labor Standards Act (FLSA):

Gray et al. v. Dolgencorp et al. **Fair Labor Standards Act (FLSA)** case filed against Dollar General involving claims for overtime not paid for store managers. Analysis of hours worked, duties performed, activity types. Case initially resolved in Summary Judgment against plaintiffs. On appeal reestablished and awaiting trial. Deposition, July 2007.

Richter v. Dolgencorp et al. **Fair Labor Standards Act (FLSA)** class action case filed against Dollar General involving claims for overtime not paid for store managers. Rebuttal of expert report Deposition, Jan 2012.

Da-Heem Rodgers, et al. v. Averitt Express, Inc., **Fair Labor Standards Act (FLSA) class action,** case involving claims for overtime not paid for truck drivers. Analysis based on travel patterns and frequency of involvement in interstate commerce and damages calculation. Worked for plaintiffs. Case settled. Deposition, June 2008.

Disparate Impact \ Discrimination:

Apkins et al. v. Atlantic Marine – Mobile. Loss of jobs, loss of work hours, lack of promotions for population of blacks working for a manufacturer who laid off blacks first, re-hired (called back) blacks last, refused to promote, and kept overtime for only certain workers. Worked for plaintiffs. Analysis of hiring practices, lay off records, filings with Federal government, and other records to develop pattern of practice analysis. Case settled, no testimony.

Disparate impact in promotions for minority workers for a large public utility. Worked for plaintiffs. Analysis of testing and promotion procedures, development of methods to ascertain if skill tests used led to disparate treatment of minorities. Report submitted, case settled.

Stein et al v. SLG Group. Disparate impact for minorities in availability of cemetery plots in multiple cemeteries owned by single holding company under the Fair Housing Act. Analysis of sales of plots to individuals to ascertain whether a pattern of practice existed. Worked for defendant. Case settled.

HOPE v. Illinois Chinese American Residence for the Elderly. Disparate impact for senior citizens for a public housing authority. Worked for city housing authority – plaintiff. Survey of senior citizens in a city to determine their attitudes and beliefs regarding different Federally sponsored senior citizen independent living facilities. Analysis of demography of general population in the city and comparison to distributions of residents in all independent living facilities in the city. Report and affidavit submitted.

AHF COMMUNITY DEVELOPMENT v. City of Dallas. Disparate impact for minorities and families under the Fair Housing Act. Code inspections by police in the City of Dallas allegedly caused disruption and loss of fair use of housing in an affordable housing complex. Analysis of business reasons under HUD guidelines for code inspections conducted by police and analysis of discriminatory and disparate impacts on residents. Deposition, July 2008. Defendant won on Summary Judgment.

Mississippi Home Builders v. City of Brandon, Mississippi. Disparate impact for minorities and families under the Fair Housing Act. City of Brandon was defendant and Homebuilders alleged a city ordinance would have a disparate impact on minorities. Ordinance established a minimum for the size of new homes built in the city. Claim is that the minimum causes prices to be too high for new homes, having a disparate impact on minorities. Worked for defendant. Deposition, August 2008. Testimony at Jury Trial, June 2009. Jury verdict for defendant.

JoeAnn McClandon v. Heathrow Land Partnership et al. Discrimination case. Heathrow is a developer that invoked a clause in the sales contract to repurchase land at original sale price from the plaintiff after plaintiff failed to complete building on the property within 24 months. Heathrow only invoked this

clause twice, though there were over 100 instances of properties sold that didn't meet this requirement. Heathrow used this clause against the two Black property owners and against none of the White property owners. Worked for plaintiff. Testimony at Jury Trial, January 2010. Jury verdict for the Plaintiff.

Other cases:

Castro v. Ford Motor, Inc. **Wrongful Death** Suit filed in California. Deposition and Testimony in 2001. Worked for defendant. Survey used in case regarding use of Ford Explorers by the general public. Critiqued survey and damages calculations as rebuttal expert. Jury found in favor of Ford.

Mullinax v. Buffalo Rock. **Wrongful Death** Suit in Alabama. Deposition and Testimony in 2004. Worked for plaintiff. Sampling of trucks from Pepsi bottling plant taken and analyzed to demonstrate that Pepsi \ Buffalo Rock drivers frequently speed, even after plaintiffs mother was killed by speeding fully loaded truck. Results were that 70 to 80 percent of trucks were observed speeding during a three month period, and 90 percent of "roll-up" trucks were speeding during this period. Jury found in favor of plaintiff with sizable award.

BMW Management, Inc. v. Sizzler, Inc.. **Lost value** and population estimates for population affected in a marketing case where a franchisor allowed a new franchise to be built in the "blocked area" around an already existing franchise. Worked for plaintiff. Case settled - deposition, January 2006.

Morgate et al. v. Mail Boxes Etc.. **Business interruption** case. Plaintiffs owned franchises of MBE. Plaintiffs claim that when MBE merged with UPS, UPS unfairly competed with old franchises, didn't maintain advertising, and caused clients of old MBE to be driven away. Conducted a survey of allegedly lost clients. Deposition, February 2009; case settled.

Avery vs. Southern Company. **Wrongful Injury** Suit in Alabama. Plaintiff was injured in an accident and claimed that the Southern Company (Alabama Power) and Charter Cable knew or should have known that a hanging cable across a highway was a danger to other traffic. Based on traffic observations of the number of times service trucks passed the accident site, computed an estimate of the number of times that a service truck would have passed the accident site prior to the accident. Worked for the plaintiff. Deposition in April 2011. Case settled.